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THE DEVELOPMENT OF CURRICULUM FOR A HIGH SCHOOL
COURSE IN CONSTRUCTION OCCUPATIONS

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education: Vocational

by
Christopher Carl Casey


June 1998

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Approved by:


John Emerson, First Reader

5/27/98
Date


Ronald K. Pendleton, Second Reader

ABSTRACT

This project is concerned with the effectiveness of the current curriculum for the construction occupations class at Pacific High School in San Bernardino, California. The context of the problem is set forth as is the purpose and significance of the project. Limitations and delimitations and a definition of terms are also included. There is also a review of the pertinent literature. Followed by a review of the literature is the methodology used and the budget for the program. Conclusions and recommendations are also presented. A new course curriculum with lesson plans was written which is included in the appendixes. The references used are listed.

ACKNOWLEDGMENTS

I would like to acknowledge and give deep heart felt thanks to my professors Dr. Allen Truell, Dr. Ron Pendleton, and John Emerson. These are the three greatest men I have yet to meet in the field of education and I was blessed to have them as a part of education experience. Finally, I want to give my appreciation to Elizabeth Closson who gave me love, encouragement, and comfort through the majority of this project.

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CHAPTER ONE

Background

Introduction

The content of Chapter One presents an overview of the project. The context of the problem is discussed followed by the purpose and significance of the project. Next, the limitations and delimitations that apply to this project are reviewed. Finally, a definition of terms is presented.

Context of the Problem

The need for construction occupations skills training has increased due to contractors finding older workers retiring with few qualified to replace them. Basic skills for entry level employment that were acceptable a few years ago are no longer acceptable today and most construction employers are not set up to teach these skills. In fact, if high school graduates are to obtain and maintain employment in the construction industry of today, they must acquire the basic skills for the construction industry of today (Galura, 1996; Lewe, 1992; Sheets, 1992; Worker, 1995).

Worker shortages in the construction industry are found throughout the United States. To relieve these shortages, basic skills training is where it starts and most companies see the educating of basic skills as being the responsibility of the school system. (Haynes & Coomer, 1996; National, 1992). Pacific High School in the San Bernardino City Unified School district is such a place where students receive

these basic skills.

History of Program at Pacific

Pacific High School reopened in September 1990 without a shop class of any kind. In September 1991, Bill Burnes was employed to instruct a shop class on a part time basis. Bill was replaced by David Criner in 1992 when it became a construction occupations class. In September 1994, the class expanded to full time, Davie Criner moved to another high school and Christopher Casey took over as the instructor.

Purpose of the Project

The purpose of this project is to design a one-semester, two hour per day course curriculum in construction occupations for high school students. Specifically, the curriculum will serve 9th-12th grade students in the San Bernardino City Unified School District. The content of the curriculum consists of a competency based system of student performance objectives.

Significance of the Project

The current construction occupations curriculum is not sufficient to prepare students for the world of work after high school. This curriculum will provide students with the skills necessary to gain meaningful employment after high school. Further, the content being taught in the San Bernardino City Unified School District will be the most current possible. Judy Kissinger, the director of Vocational

Education and the R.O.P. program for San Bernardino City Unified School District has granted permission to proceed with the project.

Limitations and Delimitations

A number of limitations and delimitations surfaced during the development of this project. These limitations and delimitations are presented in the next section.

Limitations. The following limitations apply to this project:

The construction occupations course was developed based on the facilities available in the San Bernardino City Unified School District.

The construction occupations course was developed based on the finances available in the San Bernardino City Unified School District.

Delimitations. The following delimitations apply to this project:

The construction occupations class was developed specifically to provide students with training that was acceptable to the construction advisory committee at Pacific High School at San Bernardino City Unified School District in San Bernardino, California.

The curriculum was designed with open or free space in it to satisfy the current training needs of the construction advisory committee. These needs would be determined at advisory committee meetings and the curriculum adjusted at

that time.

Definition of Terms

The following terms are defined as they apply to this project.

Affective Domain - Represents feelings, values, and attitudes.

Basic Skill - On a scale of from one to seven, one being a low skill level and seven being a high skill level, skills that are level three or less.

Cognitive Domain - Represents knowledge of facts, concepts and information and the ability to analyze, apply and evaluate.

Competency Based Evaluation - Involves measuring student performance against pre-established standards. Where student evaluation matches the performance indicated in the student performance objective exactly.

Directed Discovery - Learning by having students interactively involved with whatever it is they are expected to be able to do as a result of instruction.

Free Hours - Hours left open in a curriculum to allow for additional subject material as determined by the instructor or advisory committee.

Grade Dollars - Points given for the successful completion of a student performance objective. These points are to be used in objective. These points are to be used in determining the student grade.

Mandated Skills -- Skills specified by a state agency or by the institution that offers the course.

Needs Survey - Survey of employers.

Normative Evaluation - Comparing the scores students make on tests.

Performance Test - Observing students actually performing the task specified in the student performance objective involving both psychomotor and cognitive domains.

Psychomotor Domain - Involves muscle action and dexterity.

Socratic - Posing a problem and then question students until they arrive at an answer.

Student Performance Objective - A clearly written statement of expected student performance. It indicates exactly what students are expected to be able to do as a result of instruction.

Task Groups - Students are involved in some type of work activity in which significant contributions can be made by each group member.

Organization of the Project

This project is divided into five chapters. Chapter One provides an introduction to the context of the problem, purpose of the project, significance of the project, limitations and delimitations, and definition of terms. Chapter Two consists of a review of the literature. Chapter Three outlines the population to be served and the project design. Chapter Four reviews the budget required for implementing

the project. Chapter Five presents the conclusions and recommendations gleaned from the project. The project and references follow Chapter Five.

CHAPTER TWO

Review of the Literature

Introduction

Chapter Two Consists of a discussion of the relevant literature. The focus of the literature is upon the skills needed by entry level employees for employment in the construction industry and the housing part of the construction industry, the area in largest demand for qualified entry level employees. Also, a review of the related course content is presented.

Employee Skills

The construction industry consists of highly competent and motivated people. Anyone who doubts the high skill level of the industry need only go to a construction site and watch the finely tuned symphony of teamwork which takes place day by day as an excavation is replaced by steel and wood and mortar to become the finished reality of the architect's dream and the engineer's plan. Today, there are many in the industry who believe that this fine running machine is starting to "squeak" as many construction contractors are finding older workers retiring - with few trained to replace them. This belief has been confirmed by the results of a worker survey that showed a critical worker shortage across the country that was more severe than anyone previously anticipated. Twenty four hundred major construction employers across the United States were surveyed with 74.2% re-

porting shortages. Shortages were reported in all craft categories. Also, as was suspected, another more immediate and pressing problem, was the need for upgrading and re-training the existing adult workforce. The construction industry needs recruitment and training (Galura, 1996; Lewe, 1992; Sheets, 1992; Worker, 1995).

Training and education for the construction industry is affected by changes in industry, qualifications, and training. Basic skills training is where it starts and most companies see the educating of basic skills as being the responsibility of the school system. There are many definitions of basic skills and these definitions change as society changes. In addition, each industry has its own basic skills demands and requirements (Haynes & Coomer, 1996; National, 1992).

Basic skills for entry level employment that were acceptable a few years ago are no longer acceptable today. At one time, the ability for one to read, write the alphabet, and sign one's own name was considered adequate basic skills. Today, computer skills are fast becoming as important as basic calligraphy was to the monks before the invention of the printing press. In the construction industry, basic skills extend beyond the fundamentals of reading, writing and math to include critical thinking, problem solving, teamwork, and oral communication (Haynes & Coomer, 1996; Lewe, 1992; "National," 1992).

Teachers in general have taken a lot of public abuse over the years in reports that have accused the education system of failing its students. Students who have graduated have not been able to secure employment because they cannot demonstrate the basic job skills employers need for entry level positions. Students, upon successful completion of courses designed to provide them with these skills, have passed the courses but did not master the skills. Employers expect schools to turn out potential employees who have essential basic skills already under their belt. They want worker credentials based on what workers know or can do rather than on how or where they learned these skills (Haynes & Coomer, 1996).

What is most significant about a lot of research is the finding that what schools do matters a great deal to the future success of their students in the workplace. For the nearly 75% of young people who never receive a four-year college degree, the K-12 system is the place to prepare them for the legitimate economy. The bottom line for kids is the classroom. The challenge to educators is to understand thoroughly what knowledge and skills will be demanded of young people in their community - and to translate that understanding into curriculum. Integrating skill development into the context of trade training starts with separating the technical trade skills from the basic skills. A common set of occupational basic skill standards and common perfor-

mance outcomes in academic achievement and vocational-technical competence needs to be identified and updated (Sheets, 1992).

Occupational skill standards currently exist in only a few industries, such as health care, which are dominated by licensed occupations. There, what employees should know and be able to do is demonstrated by performance outcomes. A system of world-class occupational skill standards with an emphasis on the demonstration of competence in specific skills and activities that are based on standards of competence which are relevant to the specific vocational area is not in place for the construction industry. In addition, students need real-world work experiences as well to prepare them for what lies ahead. Few are getting such experience in school. Connecting students to experiences and supports outside of school is a responsibility of the adults in schools (Sheets, 1992).

Historically, traditional craft qualifications were provided only for craft apprentices, recruited largely from high school graduates. In more recent years, the percentage of students aged 21 and over attending construction courses has increased. With the current drop in the number of high school graduates and a shortage of skilled people in the industry, there are even more and newer attractions in opening up access to construction training for adults. Training the new adult workforce and upgrading the existing

adult workforce with world skill standards is a most immediate and pressing problem. Qualifications based on standards of competence which are relevant to the specific vocational area are becoming a must ("National," 1992).

The value of education for young people is increasing, and that increase is helping to widen the gap between the haves and the have-nots. For most all of them, it is not a question of, if the students will enter the work force, but when. Student exposure to the workplace is desirable. By reaching out to businesses, teachers are able to better understand the businesses' needs. Students get a focus. Some students get to go to college, but all students have to go to work. Schools have the responsibility to prepare all students for a career not just "a job".

For the construction industry, along with the reading, writing and math, critical thinking, problem solving, teamwork, and oral communication skill development needs to be put in a curriculum that is competency based and self paced so students know they have truly mastered a skill. A curriculum that the students are proud to be learning, their parents are proud they are learning, and the community employers are proud that their future work force will have is a very realistic possible future in the construction industry. The basic skills necessary to properly educate the future work force of the construction must be determined and supported by an advisory committee with members from the

local contractors and construction related businesses.

Safety

Safety is an important part of every job in the construction industry. Accidents can occur easily and often result in partial or total disability. Accidents can cause pain, disablement, loss of money, and sometimes they result in death. Success in construction should not be attained at the expense of peoples lives(Carpentry, 1995).

Experience has proven that most accidents can be prevented by proper safety practices. Based on knowledge, skill and an attitude of care and concern, safety means working carefully and following the rules. In the construction industry, safety is looked upon from two distinct perspectives. There is safety for the consumer and safety for the worker (Wager & Smith, 1996).

Safety for the consumer is, for the most part, taken care of in the building codes and regulations. Local governments determine building codes in order to establish standards of construction that prevent falls, fires, electrocution, and other unsafe conditions. These codes/standards protect present consumers and future consumers from safety hazards and faulty work. There are other consumer safety considerations. The plumber who goes to a home to fix a clogged kitchen drain should be careful not to place his tools on a counter or other place where food may come into direct contact.

Because of the differences in locations, such as elevation, weather conditions, etc., different codes are used in different regions. It is important to note that different safety considerations are used as well. Codes can change within regions, states, and even cities in the same state or region (Beckstrom, 1985).

Safety for the worker is a lot more difficult to contend with than safety for the consumer. Not only is there a difference in the safety considerations between a plumber, an electrician and a roofer, there are major safety consideration differences between a roofer who works on steep pitched roofs in the mountains and the roofer who works on flat top roofs in the desert. Safety considerations within an area will change for the roofer depending on the condition of the roof; wet, hot, roof material, etc. There are so many different considerations for safety that as far as safety practices for working at heights above 6', called fall protection safety, "OSHA has issued fall protection rules that allow residential carpenters and contractors to write their own fall protection plans. The plans have to meet a set of guidelines supplied by OSHA" (Wager & Smith, 1996).

Safety considerations on the job-site are placed into different categories which include personal protective equipment, working habits, good housekeeping, sloping and shoring, fire protection, and barricades and guardrails. In

addition to these, every piece of equipment used on a construction site has its own set of safety rules (Carpentry, 1995).

Advisory Committees

An advisory committee is a group of volunteers that meets regularly on a long-term basis to provide advice and/or support to an institution or one of its sub-units. They connect the education communities with their environments by a host of functions. Effective advisory committees contribute significantly to the program's or institution's improvement (Teitel, 1994 ; Scott, 1988).

An advisory committee that is effective will have educators (staff and faculty) who have a genuine desire for the committee's input. The committee will also have knowledgeable committed individuals who meet regularly with a sense of encouragement and receive sufficient access to information about the program. Their expectations about the roles of the committee in providing advice and support are clear, consistent, and well communicated (Teitel, 1994).

Setting up an advisory committee requires time and effort. The reason for this effort is the sincere belief that by welcoming and using input from a variety of perspectives, the program will be improved. Advisory committees can also provide important access to jobs and internships for students (Cochran, Phelps, and Cochran 1980).

Mandated advisory committees are seen as ways to ensure

accountability, relevance, and efficient use of state, local, or federal funds. They provide a check on the way money is spent. From the prospective of San Bernardino City Unified School District, advisory committees for ROP classes are mandated. The Carl D. Perkins Act has mandates for schools and districts who accept Perkins funding requiring them to increase business and industry participation in local programs, particularly in the development of occupational performance standards. More specifically, advisory committees must be established and operational. There must be membership lists, the majority of the membership must come from occupations from which the training is being given and the committee must meet at least once a year.

The focus of the advisory committee is to provide information and advice that can help keep program instruction current with local trends and needs. The committee members review course outline and competencies, review equipment and facilities, serve as resource speakers, and make recommendations. They are the strongest advocates for strong instructional programs.

Summary

The skills needed for entry level employment in the construction industry and safety was presented from relevant literature. Lastly, a review of advisory committees was presented.

CHAPTER THREE

Methodology

Introduction

Chapter Three details the steps used in developing the project. Specifically, the populations served are discussed. Next, the curriculum development process including the curriculum structure and content validation is presented. The course objectives, methods of instruction, methods of evaluation, texts, course content, and lastly, the grading system is delineated. The Chapter concludes with a summary.

Population Served

The curriculum was developed specifically for students in grades 11 through 12 in the San Bernardino City Unified School District. The curriculum is appropriate for use in any high school in the San Bernardino City Unified School District, since it was developed in accordance with the guidelines set forth by the construction occupations advisory committee whose members work in the area of the school district.

Curriculum Development

The next section of the project provides an overview of the curriculum development process. Specifically, the curriculum structure and content validation process are reviewed.

Curriculum Structure. This curriculum was developed in accordance with the outline put forward by the San Bernardino City Unified School District. This outline consists of the following: (1) course title, (2) grade level, (3) course length, (4) prerequisites, (5) course type, (6) course description, (7) basic text(s), (8) supplementary materials, (9) student objectives, (10) course outline, (11) instructional methods, (12) times of instruction, and (13) evaluation. The content of this program was extracted from existing programs. There are no prerequisites for this class.

Furthermore, the advisory committee wanted the grading system to reflect the real world. Students were to be paid dollars for their accomplishments and those dollars would reflect a grade that represented a quality of life they would live if their performance was similar in the working world. In some cases, three objectives must be obtained to receive payment. In others, the class had to work as a team to acquire information that would provide the opportunity for an objective.

Finally, students are to get paid only if the work was 100%. There is no "B" toilet installation job or "B" ceiling fan installation job. The work must be done to full and accepted standards, the same standards that are required in the construction industry.

Content Validation. The content of this course of study was extracted from and in accordance with the wishes of the construction occupations advisory committee for the construction occupations class at Pacific High School. The committee meets four times a year at a time around the start of each quarter. The committee members meet on site at the construction occupations class room. At those meetings the previous quarter's activities and the future quarters activities were focused upon. From the meetings, it was determines what "basic skills" should be and, considering the resources available, time available, and expertise available, objectives were set for the following quarter. The content of this project is the result of three years of the above mentioned activity.

Course Objectives

By the conclusion of this course, the student will be able to:

1. Demonstrate effective job search techniques.
2. Identify and explain potential safety hazards on the construction site
3. Recognize and demonstrate the safe use of hand and power tools.
4. Identify common tools, materials, and systems used in construction.
5. Describe career opportunities in the construction trades.

6. Identify and demonstrate the use of architectural drawings.
7. Explain proper work ethics in construction.
8. Patch a hole in drywall, solder copper pipe, install a ceiling fan, remove and replace door locks and knobs, disassemble and assemble a toilet, install a doorbell, assemble and disassemble a bathroom vanity with fixtures and drain, replace a broken window, install a three-way switch, receptacle and light fixture, and assemble and disassemble a kitchen vanity with double sink, garbage disposal, and drain.
9. Demonstrate proficiency in construction math.
10. Demonstrate proficiency in Spanish/English and English/Spanish construction terms.

Methods of Instruction

Lecture - Presentations

Demonstrations

Directed Discovery

Class Discussion (task groups, Socratic, brainstorming)

Instructional materials (textbook, manuals, handouts, movies, illustrations)

Supplemental Materials (chalkboard, overhead, video tape)

Student Presentations

Community Speakers

Models - Simulators

Computer with appropriate software

Methods of Evaluation

Performance Tests

Normative Evaluation

Written Tests (multiple choice, short answers, essay)

Self and Peer Evaluations

Oral presentation critique

Class participation and cooperation observation

Texts

Beckstrom, R. J. (1985). Ortho's home improvement encyclopedia. Chevron Chemical Company.

Huth, M.W. (1989). Construction technology. Delmar Publishers, Inc.

Course Content (180 hour program)

- I. Introduction and course overview 2 HOURS
 - A. Goals and objectives of construction occupations class
 - B. Class schedule - expectations
 - C. Discipline contract
 - D. Pre-course examination
- II. Safety 38 HOURS
 - A. Safe operation of tools and equipment
 - B. Shop safety and safety equipment
 - C. Onsite safety
- III. Cooperation, information, and presentations 60 HOURS

A. Review and testing of 30 chapters

B. Fifteen presentations

IV. Shop projects

60 HOURS

A. Soldering

1. Explanation and demonstration

2. Student performs task

B. Drywall Repair

1. Explanation and demonstration

2. Student performs task

C. Ceiling Fan

1. Explanation and demonstration

2. Student performs task

D. Door Locks and Knobs

1. Explanation and demonstration

2. Student performs task

E. Door Bell

1. Explanation and demonstration

2. Student performs task

F. Bathroom Vanity and Fixtures

1. Explanation and demonstration

2. Student performs task

G. Window

1. Explanation and demonstration

2. Student performs task

H. Toilet

1. Explanation and demonstration

- 2. Student performs task
- V. Kitchen Sink and Drain
 - 1. Explanation and demonstration
 - 2. Student performs task
 - A. Electrical
 - 1. Explanation and demonstration
 - 2. Student performs task
- VI. Construction Math 10 HOURS
 - A. Area
 - B. Perimeter
 - C. Project costs
 - D. Payroll
- VII. Job Search Techniques 5 HOURS
 - A. Areas to search
 - 1. Newspaper
 - 2. Phone book
 - 3. Friends and acquaintances
 - B. Presentations
 - C. Applications and resume
 - D. Interview techniques
 - E. Follow-up
- VIII. English/Spanish Construction Translation 5 HOURS

Grading

Evaluations First Quarter (90 hours)

- 1. Safety 200 points

2.	Cooperation, information, and presentations	1500 points
3.	Construction Math	100 points
	Shop projects	200 points
	Total Points	2000 points
Evaluations Second Quarter (90 hours)		
	Safety	200 points
1.	Shop projects	1000 points
2.	Construction math	200 points
3.	Job search techniques	200 points
	Spanish/English translation	<u>400 points</u>
	Total Points	2000 points

Grading Scale

4000 - 3601 = A

3600 - 3201 = B

3200 - 2801 = C

2800 - 2401 = D

2400 = F

Summary

The steps used in the development of this project were outlined. The population served was described as was the curriculum development process. Lastly, course objectives, methods of instruction, methods of evaluation, texts, course content, and the grading system were presented.

CHAPTER FOUR

Budget

Introduction

The costs indicated for the presented curriculum are based on current instructional costs and instructional fees at the San Bernardino City Unified School District for the Regional Occupational Program. These costs are for a full time position considerations.

Program Budget Form

Fiscal Year: 1997-1998

Program Code No.: 024

Program Title: Construction Occupations

District: San Bernardino City Unified School District

ESTIMATED ADA AND INCOME

<u>6</u>	X	<u>16</u>	X	<u>180</u>	X	<u>.75</u> ÷ 525 =	<u>24.68</u>	X	<u>\$2,400</u>	=	<u>\$59,246</u>
# of Sections for one Year		# Students in Program		# of Hours			ADA		Comp Unit		Income

BUDGET

1000 CERTIFIED SALARIES

1110 Teachers' Salaries

<u>1</u>	X	<u>7</u>	X	<u>180</u>	X	<u>\$25.00</u>	=	<u>\$31,500</u>
# of Teachers		# Hours/Day		# Days		Rate of Pay		Subtotal

1140 Substitute Salaries

<u>10</u>	X	<u>\$75.00</u>	=	<u>\$750</u>
# Days		Rate of Pay		Subtotal

TOTAL 1000 CERTIFICATED SALARIES \$32,250

3000 EMPLOYEE BENEFITS

3100 State Teachers' Retirement System
%8.25 X \$32,250 = \$2,660
Subtotal Subtotal
Cert Sal

3330 Medicare
%1.45 X \$32,250 = \$477
Subtotal Subtotal
Cert Sal

3400 Health and Welfare Benefits
\$5,500 X 1 = \$5,500
FTE Subtotal

3500 State Unemployment Insurance
% .05 X \$32,250 = \$ 16
Subtotal Subtotal
Cert Sal

TOTAL 3000 EMPLOYEE BENEFITS \$9,137

5000 CONTRACTED SERVICES AND OTHER OPERATING EXPENSES

5100 Consultant Services

 X =
Hours Rate of Pay Subtotal

5110 Approved Inservice Activities

 X =
Teachers # Days Subtotal
X \$60

5400 Insurance =
Subtotal

5500 Utilities and Housekeeping Services

\$ Water \$ Electric
\$ Waste \$ Telephone
\$ Gas \$ Other =
Subtotal

5630 Rents and Leases

<u> </u>	X	<u> </u>	=	<u> </u>
# Months		Cost/Month		Subtotal
*Student Transportation				

<u> </u>	X	<u> </u>	=	<u> </u>
# Miles		Cost/Mile		Subtotal

TOTAL 5000 CONTRACTED SERVICES AND OPERATING EXPENSES -0-

6000 NEW EQUIPMENT

*6490 Equipment	=	<u>\$3,372</u>
		Subtotal

*6590 Equipment Replacement	=	<u> </u>
		Subtotal

TOTAL 6000 NEW EQUIPMENT \$3,372

SUPPORT SERVICES

Subtotal of all items without asterisks(*)	
<u>\$45,578</u> X <u>15</u> % (not to exceed 15%)	<u>\$ 7,287</u>

GRAND TOTAL PROGRAM COST	
(1000 through 6000=Indirect Cost)	<u>\$59,246</u>

ESTIMATED INCOME FROM ESTIMATED ADA AND INCOME	<u>\$59,246</u>
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Summary

The budget presented represents the expected income from ADA and the expected expenses for a full time teacher. Also, expenses for books and supplies, equipment, and support services were included.

CHAPTER FIVE

Conclusion and Recommendations

Introduction

Included in Chapter Five is a presentation of the conclusions gleaned as a result of completing this project. Further, the recommendations extracted from this project are presented. Lastly, the Chapter concludes with a summary.

Conclusion

The conclusion extracted from this project follow:
Based on the review of the literature and discussions with the members of the construction occupations advisory committee, the construction occupations curriculum at San Bernardino City Unified School District is no longer valid.

Students graduating from the San Bernardino City Unified School District are not adequately prepared with basic construction skills.

Recommendations

The recommendations resulting from this project follow:

The curriculum be reviewed and updated annually to ensure that the students are receiving the most current instruction possible.

The construction advisory committee be allowed to have some impact on the amount of funds that are assigned to this program. This would assure that the best and most current training possible would be available to the students.

Summary

Chapter Five reviewed the conclusions derived from the project as determined from the review of literature and the opinions of the advisory committee. Lastly, the recommendations culminating from this project were presented. These recommendations were the results of advice and guidance from the advisory committee.

APPENDIX A: THE CURRICULUM

High School Construction Occupations

Introduction

The curriculum is presented in three parts: (1) the performance objectives, (2) Course Content, and (3) Grading System. There is a total of 180 hours accounted for in this course. There are nineteen "Free hours" available that are to be filled in at the discretion of the advisory committee or instructor.

Performance Objectives

By the conclusion of this course, it is expected that students will have met all of the following objectives:

1. The student will be able to demonstrate the proper way of introduction through shaking hands.

- a. The student will be able to demonstrate the ability to communicate information to others standing in front of a group.

- b. The student will be able to demonstrate the ability to work with others in a cooperative manner.

- c. The student will be able to patch a 4 inch hole in drywall.

- d. The student will be able to describe five important features of drywall and convey that information at will.

- e. The student will be able to solder copper pipe.

- f. The student will be able to perform or describe

five important features of soldering and convey that information at will.

g. The student will be able to remove a ceiling fixture and replace it with a ceiling fan.

h. The student will be able to describe five important features of the ceiling fan and convey that information at will.

i. The student will be able to install a doorbell system.

j. The student will be able to describe five features of the doorbell and convey that information at will.

k. The student will be able to disassemble and install a toilet.

l. The student will be able to describe five features of the toilet and convey that information at will.

m. The student will be able to repair a broken window.

n. The student will be able to describe five features of the window and convey that information at will.

o. The student will be able to disassemble and reassemble a bathroom vanity and fixtures.

p. The student will be able to describe five features of the bathroom vanity and convey that information at will.

q. The student will be able to install a three way switch to a light fixture.

r. The student will be able to describe five features

of switches and convey that information at will.

s. The student will be able to install a receptacle, switch, and light fixture.

t. The student will be able to explain five features of receptacles and demonstrate conveying that information.

Course Content

- I. Introduction and course overview 2 HOURS
 - A. Goals and objectives of construction occupations class
 - B. Class schedule - expectations
 - C. Discipline contract
 - D. Pre-course examination
- II. Safety 40 HOURS
 - A. Safe operation of tools and equipment
 - B. Shop safety and safety equipment
 - C. Onsite safety
- III. Cooperation, information, and presentations 45 HOURS
 - A. Review and testing of 30 chapters
 - B. Fifteen presentations
- IV. Shop Projects 50 HOURS
 - A. Soldering
 - 1. Explanation and demonstration
 - 2. Student performs task
 - B. Drywall Repair
 - 1. Explanation and demonstration
 - 2. Student performs task

- C. Ceiling Fan
 - 1. Explanation and demonstration
 - 2. Student performs task
- D. Door Locks and Knobs
 - 1. Explanation and demonstration
 - 2. Student performs task
- E. Door Bell
 - 1. Explanation and demonstration
 - 2. Student performs task
- F. Bathroom Vanity and Fixtures
 - 1. Explanation and demonstration
 - 2. Student performs task
- G. Window
 - 1. Explanation and demonstration
 - 2. Student performs task
- H. Toilet
 - 1. Explanation and demonstration
 - 2. Student performs task
- I. Kitchen Sink and Drain
 - 1. Explanation and demonstration
 - 2. Student performs task
- J. Electrical
 - 1. Explanation and demonstration
 - 2. Student performs task
- V. Construction Math 10 HOURS
 - A. Area

B. Perimeter

C. Project Costs

D. Payroll

VI. Job Search Techniques 10 HOURS

A. Areas to Search

1. Newspaper

2. Phone Book

3. Friends and acquaintances

B. Presentations

C. Applications and resume

D. Interview techniques

E. Follow-up

VII. Substitute Preparation 10 HOURS

VIII. Guest Speakers 3 HOURS

IX. English/Spanish Construction Translation 10 HOURS

Grading System

For this curriculum, students will receive a letter grade that represents the quality of life that a contractor would live if he/she performed at that level. An "A" grade would indicate a contractor who is doing very well and he/she and his/her family would be living very well. An "F" grade would be indicative of a contractor who would be sitting on a corner with a sign "Will work for food."

"Grade Dollars" are given for every phase of the curriculum completed. There is a total of \$5,000 that could be earned for the semester by a student who satisfactory com-

pletes all the objectives. The dollar amount and an explanation for each performance objective follows:

Task: Handshake - \$200 available - \$50 given for each successful student

Evaluation: Demonstration - four handshake tests given per semester.

Task: Presentations - \$1,500 available - \$100 given for each successful demonstration.

Evaluation: Five chapter questions are quickly read to class. Students collect the questions as a group, find the answers as a group, and study for test. A thirty chapter construction text is used. Students must pass two chapter tests and give a five minute presentation in front of the class to receive \$100. Test is pass-fail. Student may miss two questions on a test for the first ten chapters, one on the second ten chapters, and none on the last ten chapters.

Task: Drywall - \$100 available - \$100 given for successful completion.

Evaluation:

Task: Soldering - \$100 available - \$100 given for successful completion

Evaluation:

Task: Learning - \$900 available - \$100 given for successful completion.

Evaluation: The student should be able to recite five questions with their appropriate answers before being al-

lowed to due the mock-up exercises.

Task: Electrical - \$200 available - \$200 given and a certificate that is required for Safety continuation in the program.

Evaluation:

Task: Mock-up - \$500 available - Students do performance objective and receive \$50

One for the successful completion of each mock-up.

Evaluation:

Task: Mock-up - \$500 available - Students do performance objective and receive \$50

Two for the successful completion of each mock-up.

Evaluation:

Task: Mock-up \$1,000 available - Students do performance objective and receive three \$100 for the successful completion of each mock-up.

Summary

The student performance objectives were presented. The course content was described with the expected number of hours for each phase of the program. Lastly, the grading system used was presented.

APPENDIX B: LESSON PLANS

Type and Title of Lesson **Lesson Plan**

Lesson # 1

Lecture, Directed Discovery, Class Discussion - Introduction *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture and a demonstration, each student will properly introduce himself/herself to the instructor and to each other in the class.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Being able to present yourself to strangers is a skill that is useful in all walks of life and is critical in the construction industry.

Introduction (prepare students for objective)

Ask question "Who is going to get the job?"

Procedure (sequence of instruction)

1. Present syllabus and review with students
2. Discipline Plan
3. Handshake demonstration
4. Pre-Test
5. Handshake practice
6. Handshake test (100 points)
7. Assist with enrollment

Closure

1. Ask for questions
2. Remind students to bring back agreement signed

* This is a two hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 2**

Lecture, Directed Discovery, Class Discussion - Unit One

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit one titled The Construction Industry and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 3

Lecture, Directed Discovery, Class Discussion - Unit Two

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit two titled Architectural Drawings and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 4

Lecture, Student Presentations - Presentation 1 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit one and unit two in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience".

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 5

Lecture, Directed Discovery, Class Discussion - Unit Three

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit three titled Specifications and Contracts and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson Lesson Plan**Lesson # 6****Lecture, Directed Discovery, Class Discussion - Unit four****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given relevant reading material from unit four titled Construction Management Systems and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success

Type and Title of Lesson **Lesson Plan**

Lesson # 7

Lecture, Student Presentations - Presentation 2 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit three and unit four in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question “who’s going to get the job”?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. “who will get the job”
2. ask “how do you feel about the experience”

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 8

Lecture, Directed Discovery, Class Discussion - Unit five

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit five titled Concrete and Masonry and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson

Lesson Plan

Lesson # 9

Lecture, Directed Discovery, Class Discussion - Unit Six

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit six titled Metal and Wood Products and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction

Type and Title of Lesson Lesson Plan**Lesson # 10****Lecture, Student Presentations - Presentation 3 *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given information from unit five and unit six in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience"

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 11

Lecture, Directed Discovery, Class Discussion - Unit Seven

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit seven titled Construction Finishing Materials and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 12

Lecture, Directed Discovery, Class Discussion - Unit Eight

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit eight titled Measurement and Layout and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson Lesson Plan**Lesson # 13****Lecture, Student Presentations - Presentation 4 *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given information from unit seven and unit eight in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience"

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 14

Lecture, Directed Discovery, Class Discussion - Unit Nine

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit nine titled Cutting, Sawing, and Drilling Tools and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give student 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction

Type and Title of Lesson Lesson Plan**Lesson # 15****Lecture, Directed Discovery, Class Discussion - Unit Ten****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given relevant reading material from unit ten titled Fasteners and Fastening Tools and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 16

Lecture, Student Presentations - Presentation 5 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit nine and unit ten in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question “who’s going to get the job”?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. “who will get the job”
2. ask “how do you feel about the experience”.

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson Lesson Plan**Lesson # 17****Lecture, Class Discussion, - Basic Shop Safety****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given the location of the shop safety equipment, the shop safety procedures, and a review of the behavior agreement, each student will correctly identify the answers to a safety test with 100% accuracy at the end of the period.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Safety is an important part of every job in the construction industry. Accidents can occur easily and often result in partial or total disability. Accidents can cause pain, disablement, loss of money, and sometimes they result in death.

Introduction (prepare students for objective)

Ask question "Is getting an education more important than keeping safe?"

Procedure (sequence of instruction)

1. Explain shop safety as most important consideration of the class
2. Show where the safety equipment is located in the shop
3. Describe procedure in the event of an accident
4. Identify exit out of the shop
5. Locate power-off switches for students
6. Explain and demonstrate the use of safety equipment
7. Give safety test - 200 points

Closure (recap and wrap-up and/or clean up)

1. review shop safety equipment
2. review procedures
3. review behavior agreement

Type and Title of Lesson **Lesson Plan**

Lesson # 18

Lecture, Demonstration, Direct Discovery - Drywall Repair *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information on how to repair drywall, a demonstration on repairing a hole in drywall, the proper tools, materials, and a piece of drywall on a mock-up, each student will repair a hole in drywall to such a degree that when the drywall is painted, no one would be able to tell there was a hole. The student will do it until they get it correct and receive 100 points.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Drywall is a “used everywhere” material in the construction industry. There is a need for individuals who can properly patch holes in drywall. Everyone can benefit from knowing how to patch holes in his/her own walls.

Introduction (prepare students for objective)

Ask question “What does it cost to have a hole made in drywall by a door knob patched?” and “Who do you call to hire to patch the hole?”

Procedure (sequence of instruction)

1. Safety on tools and procedure for drywall patch - test included
2. Tools and Materials described and explained
3. Patching procedure explained
4. Demonstration
5. In groups of four, provide tools, materials, and work area
6. Assign task, observe progress & interaction, assist when asked, evaluate

Closure (recap and wrap-up and/or clean up)

1. Review safety, tools needed, materials needed, and quality of work expected
2. Motivate students to exercise their new skills

* This is a ten hour lesson.

Type and Title of Lesson **Lesson Plan**

Lesson # 19

Lecture, Directed Discovery, Class Discussion - Unit Eleven

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit eleven titled Power Tools and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 20

Lecture, Directed Discovery, Class Discussion - Unit Twelve

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twelve titled Site Work and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 21

Lecture, Student Presentations - Presentation 6 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit eleven and twelve in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience"

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson

Lesson Plan

Lesson # 22

Lecture, Directed Discovery, Class Discussion - Unit Thirteen

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit thirteen titled Foundation Systems and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 23

Lecture, Directed Discovery, Class Discussion - Unit Fourteen

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit fourteen titled Floor Systems and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson

Lesson Plan

Lesson # 24

Lecture, Student Presentations - Presentation 7 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit thirteen and fourteen in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question “who’s going to get the job”?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. “who will get the job”
2. ask “how do you feel about the experience”

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson Lesson Plan**Lesson # 25****Lecture, Directed Discovery, Class Discussion - Unit Fifteen****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given relevant reading material from unit fifteen titled Wall Framing Systems and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson Lesson Plan**Lesson # 26****Lecture, Directed Discovery, Class Discussion - Unit Sixteen****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given relevant reading material from unit sixteen titled Roof Systems and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 27

Lecture, Student Presentations - Presentation 8 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit fifteen and sixteen in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience".

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson

Lesson Plan

Lesson # 28

Lecture, Directed Discovery, Class Discussion - Unit Seventeen

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit seventeen titled Enclosing a Structure and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson Lesson Plan**Lesson # 29****Lecture, Directed Discovery, Class Discussion - Unit Eighteen****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given relevant reading material from unit eighteen titled Soils and Foundations and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 30

Lecture, Student Presentations - Presentation 9 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit seventeen and eighteen in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience?"

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson Lesson Plan**Lesson # 31****Lecture, Directed Discovery, Class Discussion - Unit Nineteen****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given relevant reading material from unit nineteen titled Floor Systems and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 32

Lecture, Directed Discovery, Class Discussion - Unit Twenty

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty titled Structural Frames and Walls and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 33

Lecture, Student Presentations - Presentation 10 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit nineteen and twenty in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question “who’s going to get the job”?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. “who will get the job”
2. ask “how do you feel about the experience”.

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson Lesson Plan**Lesson # 34****Lecture, Demonstration, Directed Discovery - Soldering Copper Pipe *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given information on how to measure, cut, and solder, a soldering demonstration, and the proper tools, materials, and length, each student will cut and solder four pieces of copper pipe to form a flat square. The student will do until they get it correct and will receive 100 points.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Soldering copper pipe is a widely used application in the plumbing industry of today. This exercise will give them an introduction to and a starting base from which to develop upon in the future.

Introduction (prepare students for objective)

Ask question "Where and when was the first time a master plumber soldered copper pipe?"

Procedure (sequence of instruction)

1. Safety on tools and procedure for soldering - test
2. Use of tape measure (construction math -
3. Tools and Materials described and explained
4. Soldering procedure explained
5. Demonstration
6. In groups of four, provide tools, materials, and work area
7. Assign task, observe progress & interaction, assist when asked, and evaluate final product

Closure (recap and wrap-up and/or clean up)

1. Review safety, tools needed, materials needed, and quality of work expected

* This is a ten hour lesson.

Type and Title of Lesson **Lesson Plan**

Lesson # 35

Lecture, Directed Discovery, Class Discussion - Unit Twenty One

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty one titled Highway Construction and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 36

Lecture, Directed Discovery, Class Discussion - Unit Twenty Two

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty two titled Industrial Construction and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson Lesson Plan

Lesson # 37

Lecture, Student Presentations - Presentation 11 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit twenty one and twenty two in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question “who’s going to get the job”?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. “who will get the job”
2. ask “how do you feel about the experience”

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 38

Lecture, Directed Discovery, Class Discussion - Unit Twenty Three

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty three titled Plumbing and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson Lesson Plan

Lesson # 39

Lecture, Directed Discovery, Class Discussion - Unit Twenty Four

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty four titled Climate Control and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 40

Lecture, Student Presentations - Presentation 12 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit twenty three and twenty four in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience".

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 41

Lecture, Directed Discovery, Class Discussion - Unit Twenty Five

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty five titled Electrical Wiring and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson Lesson Plan

Lesson # 42

Lecture, Directed Discovery, Class Discussion - Unit Twenty Six

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty six titled Interior Finishing and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson

Lesson Plan

Lesson # 43

Lecture, Student Presentations - Presentation 13 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit twenty five and twenty six in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience".

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 44

Lecture, Directed Discovery, Class Discussion - Unit Twenty Seven

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty seven titled Painting and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 45

Lecture, Directed Discovery, Class Discussion - Unit Twenty Eight

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit twenty eight titled Landscaping and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 46

Lecture, Student Presentations - Presentation 14 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit twenty seven and twenty eight in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience".

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson Lesson Plan**Lesson # 47****Lecture, Directed Discovery, Class Discussion - Unit Twenty Nine****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given relevant reading material from lesson twenty nine titled Manufactured Construction and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 48

Lecture, Directed Discovery, Class Discussion - Unit Thirty

OBJECTIVE (What students should be able to do as the result of this lesson)

Given relevant reading material from unit thirty titled Construction in Space and five relevant unit questions, the students will cooperate with each other to find the correct answers to the questions and study to correctly write out the answers at the end of the period with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing and being able to find relevant information is very important for landing jobs, getting employment, and successful completion of projects. Cooperating with others for information is also vital for success in construction.

Introduction (prepare students for objective)

Ask question about relevance of unit information to the construction industry. Convey to the students that the information in the unit is important.

Procedure (sequence of instruction)

1. provide appropriate reading material
2. read off five unit questions
3. give students 15 minutes to find and compare answers
 - a. observe
 - b. assist when asked
4. give students 10 minutes to prepare for test
5. give students 10 minutes to write out the answers to the five questions

Closure (recap and wrap-up and/or clean up)

1. information is important for success
2. working as a team to get information is necessary in construction
3. information in unit is important

Type and Title of Lesson **Lesson Plan**

Lesson # 49

Lecture, Student Presentations - Presentation 15 *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given information from unit twenty nine and thirty in the previous two lessons, the use of a podium, and five minutes of class time, the students will give a presentation to the class and communicate the questions and answers to each unit correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Of all the factors associated with landing a job and getting employment, the single most important one is presenting yourself. Being able to properly present yourself to others will bring opportunities to exercise your trade.

Introduction (prepare students for objective)

Ask question "who's going to get the job"?

Procedure (sequence of instruction)

1. provide podium
2. provide stop watch
3. 100 points are given for this exercise
4. students are given points for participation and not performance quality
5. points are deducted for students who do not participate as a captive audience

Closure (recap and wrap-up and/or clean up)

1. "who will get the job"
2. ask "how do you feel about the experience"

* This is a two hour lesson with 20 students. Adjust presentation time to fit class size so lesson does not exceed two hours.

Type and Title of Lesson **Lesson Plan**

Lesson # 50

Directed Discovery, Class Discussion - Job Search One *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given an opportunity for an 5 minute interview with the class instructor, each student will present himself/herself to the instructor, inquire about their grade and the possibility of making up missed work, and make one suggestion for improving the class.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Employee involvement in the operations of any organization is very important to its success, especially construction companies. To approach your boss with suggestions for improvement takes a lot of courage and must be done properly.

Introduction (prepare students for objective)

Ask question "If you were to make this class better for the students that will follow next year, what would you do?"

Procedure (sequence of instruction)

1. Give order students are to be interviewed
2. Assist student in becoming comfortable in instructor presence
3. Go over points earned and grade
4. Prompt student for conversation
5. Take suggestion seriously

Closure

1. Review suggestions with class
2. Consider consequences of implementation of any suggestions

* This is a two hour lesson giving each student a five minute interview. Adjust the interview time to the number of students.

Type and Title of Lesson **Lesson Plan**

Lesson # **51**

Make-up - Quarter Final Preparation *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given an opportunity from having excused absences or other excused reasons for missing previous lessons, each student will do the task required to complete the missed work and receive their points accordingly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Sickness, special events, and even the weather affect all of our lives in one way or another. We should all have the opportunity to make-up or catch-up.

Introduction (prepare students for objective)

Ask question "Do you want to bring your grade up or leave it where it is?"

Procedure (sequence of instruction)

1. Assign make-up to those who qualify and to the appropriate task
2. Use accomplished students in the task
3. Give points as required

Closure

1. Dismiss students for the quarter

* This is a five hour lesson giving closure to the quarter (90 hours).

Type and Title of Lesson Lesson Plan**Lesson # 52****Lecture, Instructional Materials, Supplemental Materials - Basic Electrical Safety *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given a lecture, a pre-test, and a movie on electrical safety, each student will take a post-test at the end of the period and pass it with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Safety is an important part of every job in the construction industry. Accidents can occur easily and often result in partial or total disability. Accidents can cause pain, disablement, loss of money, and sometimes they result in death.

Introduction (prepare students for objective)

Ask question " How much electrical current will it take to kill you?"

Procedure (sequence of instruction)

1. Give pre-test
2. Show movie.
3. Give post-test
4. Grade papers
5. Schedule students for after school to do make-up. Students take test until they complete it with 100% accuracy

Closure (recap and wrap-up and/or clean up)

1. Review major points on test
2. Stress importance of safety

* This is a five hour lesson consisting of a five part electrical safety program that was purchased just for this purpose. Two hundred points are given for successful completion of these tests. Students may not continue in program without passing these tests.

Type and Title of Lesson **Lesson Plan**

Lesson # **53**

Lecture, Demonstration, Class Discussion - Ceiling Fan *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture, a demonstration, the appropriate tools, and the use of the ceiling fan mock-up, each student will disassemble the ceiling fan on the mock-up, install a light fixture where the fan was, identify the appropriate parts of the ceiling fan, remove the light fixture, and reinstall the ceiling fan, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : One painless way to give a room a fresh look is to install new ceiling lights or a ceiling fan. Ceiling fans reduce heating and cooling costs. There are a lot of people replacing light fixtures with fans who are not aware of the proper requirements to do so.

Introduction (prepare students for objective)

Ask question “ How much does it cost to have a ceiling fan installed?”

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with ceiling fan
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts of fan
6. Assign light fixture supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a two hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 54**

Lecture, Demonstration, Class Discussion - Toilet *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture, a demonstration, the appropriate tools, and the use of the toilet mock-up, each student will disassemble the toilet, identify its appropriate parts and reinstall it, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Replacing and repairing a toilet seldom requires specialized skills. The toilet "working parts" will need to be replaced periodically. This should be a skill that we all have.

Introduction (prepare students for objective)

Ask question "What gets more attention than when the toilet doesn't work?"

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with the toilet
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
 2. Review installation
 3. Review significant parts
- * This is a two-hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 55****Lecture, Demonstration, Class Discussion - Door Locks *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given a lecture, a demonstration, the appropriate tools, and the use of the door lock mock-up, each student will disassemble the locks, identify the appropriate parts and reinstall the locks, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Door locks and knobs are a major part of our lives. They are easy to replace.

Introduction (prepare students for objective)

Ask question "How much does it cost to have someone replace the locks in a door?"

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with door locks
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

- This is a two hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 56****Lecture, Demonstration, Class Discussion - Door Bell *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given a lecture, a demonstration, the appropriate tools, and the use of the door bell mock-up, each student will disassemble the door bell, identify the appropriate parts and reinstall it, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Pushing a button and wondering if the bell rang inside the house has come to the minds of many who have stood out on the front stoop in the rain. If you have one, it should work.

Introduction (prepare students for objective)

Ask question "Who would you call to fix a broken door bell?"

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with door bells
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a two hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 57

Lecture, Demonstration, Class Discussion - Window Repair *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture, a demonstration, the appropriate tools, and the use of the window mock-up, each student will disassemble the window, identify the appropriate parts and reinstall it, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : The age old problem with window pains remains the same - they break. Replacing a broken window requires low skills and good safety habits. This one is a must for all future parents.

Introduction (prepare students for objective)

Ask question " Who has broken a window and never paid for it?"

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with glass replacement
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a two hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 58

Lecture, Demonstration, Class Discussion - Bathroom Vanity *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture, a demonstration, the appropriate tools, and the use of the bathroom vanity mock-up, each student will disassemble the vanity, identify the appropriate parts and reinstall it, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : The bathroom vanity represents a sink, faucet, drain, and stopper parts. Fixing leaks and unclogging drains should be at the base of everyone's skill portfolio.

Introduction (prepare students for objective)

Ask question "What do you pay a plumber for the hour you put down your drain?"

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with vanity maintenance
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a two hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 59

Lecture, Demonstration, Class Discussion - Kitchen Sink *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture, a demonstration, the appropriate tools, and the use of the kitchen sink mock-up, each student will disassemble the unit, identify the appropriate parts and reinstall it, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : The sink, faucet, drains, and garbage disposal of the kitchen sink have instilled fear into the hearts of many who attempted to repair them. This experience is will give confidence for all of us who will surely need to repair one sometime in our life.

Introduction (prepare students for objective)

Ask question “ What is the cost to replace a garbage disposal?”

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with kitchen sink
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a two hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 60

Lecture, Demonstration, Class Discussion - Electrical One *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture and a demonstration on the board, each student will draw out a wiring schematic for a three way switch with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : There are several ways to wire a three way switch. This class will introduce one that will be applied to real application in the electrical three mock-up.

Introduction (prepare students for objective)

Ask question "What are the ways to wire a three way switch?"

Procedure (sequence of instruction)

1. Draw out hot wire
2. Draw out neutral wire
3. Draw out ground wire

Closure (recap and wrap-up and/or clean up)

1. Review schematic

* This is a one hour lesson

Type and Title of Lesson Lesson Plan

Lesson # 61

Lecture, Demonstration, Class Discussion - Electrical Two *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture, a demonstration, the appropriate tools, and the use of the electrical mock-up, each student will disassemble a receptacle, switch, and light fixture, identify the appropriate parts, and reinstall it, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : There is a large demand today for qualified electricians. There are also a lot of fears associated with electrical work. This is an introduction to electrical work, not to make anyone an electrician, but to find suitability for the trade.

Introduction (prepare students for objective)

Ask question "What does it cost to install a plug, switch, and light fixture?"

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with electrical repair
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a two hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 62****Lecture, Demonstration, Class Discussion - Electrical Three *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given a lecture, a demonstration, the appropriate tools, and the use of the electrical mock-up, each student will disassemble a three way switch and a light fixture, identify the appropriate parts, and reinstall it, with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : There is a large demand today for qualified electricians. There are also a lot of fears associated with electrical work. This is an introduction to electrical work, not to make anyone an electrician, but to find suitability for the trade.

Introduction (prepare students for objective)

Ask question "What does it cost to install three way switch and light fixture?"

Procedure (sequence of instruction)

1. Safety lecture with test
2. Tools, equipment, and procedure associated with electrical repair
3. Rules for a proper installation
4. Demonstration
5. Identify significant parts
6. Assign mock-up supervisor picked from students in class
7. Students perform assembly and disassembly when all ten shop project demonstrations are completed

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a two hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 63

Lecture, Directed Discovery, Class Discussion - Shop Projects Practice *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given the appropriate tools and assigned a mock-up, each student will disassemble the mock-up, identify the appropriate parts, and assemble it within a one hour period and with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Students who are interactively involved, who are actively doing specific tasks, are “learning by doing.” Learning by doing stimulates interest and motivation, and creates the potential for students to examine attitudes and values about the careers for which they are preparing.

Introduction (prepare students for objective)

Ask question “Would you like to be doing this for real money?”

Procedure (sequence of instruction)

1. Safety review the beginning of each hour
2. Mock-ups and tools ready
3. Assign mock-up supervisor to mock-up
4. Send students through all ten mock-ups
5. Make students mock-up supervisors and supervisory students
6. Send students through all ten mock-ups
7. Students get 25 points for each completion the first time through
8. Teacher observes and assists when asked

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

* This is a twenty hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 64****Lecture, Supplemental Materials, Class Discussion - Construction Math One *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given a lecture and a demonstration, each student will determine labor costs, materials costs, overhead costs, and profit for bids to: 1. A steel fence around a rectangle pool. 2. A wood fence around an oval shaped pool. 3. A block fence around a kidney shaped pool. 4. A brick fence around a L-shaped pool.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Math is the tool that we use to determine, in advance, the cost of construction projects. The bid process is what is used in the construction industry to assure that the customer pays a fair price and the contractor doesn't charge too much.

Introduction (prepare students for objective)

Ask question "If you charge too little for a job, where does the money come to pay for it?"

Procedure (sequence of instruction)

1. Perimeter
2. Feet to yards conversion
3. Cost per foot
4. Material Cost, Labor Cost, Overhead Cost, Profit

Closure (recap and wrap-up and/or clean up)

1. Review perimeter and conversion
2. Review cost per foot
3. Review material cost, labor cost, overhead cost, and profit

* This is a two hour lesson

Type and Title of Lesson

Lesson Plan

Lesson # 65

Lecture, Supplemental Materials, Class Discussion - Construction Math Two *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture and a demonstration, each student will determine labor costs, materials costs, overhead costs, and profit for carpet bid to: 1. A dining room. 2. A master bedroom. 3. A living room. 4. Children's bedroom

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Math is the tool that we use to determine, in advance, the cost of construction projects. The bid process is what is used in the construction industry to assure that the customer pays a fair price and the contractor doesn't charge too much.

Introduction (prepare students for objective)

Ask question "If you charge too much for a job, what are the consequences?"

Procedure (sequence of instruction)

1. Perimeter
2. Feet to yards conversion
3. Cost per foot/yard
4. Material Cost, Labor Cost, Overhead Cost, Profit

Closure (recap and wrap-up and/or clean up)

1. Review perimeter and conversion
2. Review cost per foot
3. Review material cost, labor cost, overhead cost, and profit

- This is a two hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 66****Lecture, Supplemental Materials, Class Discussion - Construction Math Three *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given a lecture and a demonstration, each student will determine labor costs, materials costs, overhead costs, and profit for a glass bid to: 1. The north side of the house. 2. The south side of the house. 3. The east side of the house. 4. The west side of the house

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Math is the tool that we use to determine, in advance, the cost of construction projects. The bid process is what is used in the construction industry to assure that the customer pays a fair price and the contractor doesn't charge too much.

Introduction (prepare students for objective)

Ask question "If you bid to install one product but install another, what are the possible consequences?"

Procedure (sequence of instruction)

1. Perimeter
2. Feet to yards conversion
3. Cost per foot/yard
4. Material Cost, Labor Cost, Overhead Cost, Profit

Closure (recap and wrap-up and/or clean up)

1. Review perimeter and conversion
2. Review cost per foot
3. Review material cost, labor cost, overhead cost, and profit

- This is a two hour lesson.

Type and Title of Lesson

Lesson Plan

Lesson # 67

Lecture, Supplemental Materials, Class Discussion - Construction Math Four *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture and a demonstration, each student will determine labor costs, materials costs, overhead costs, and profit for a siding bid to: 1. A left elevation. 2. A right elevation. 3. A front elevation. 4. A rear elevation.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Math is the tool that we use to determine, in advance, the cost of construction projects. The bid process is what is used in the construction industry to assure that the customer pays a fair price and the contractor doesn't charge too much.

Introduction (prepare students for objective)

Ask question "How much extra materials to you order?"

Procedure (sequence of instruction)

1. Perimeter
2. Feet to yards conversion
3. Cost per foot/yard
4. Material Cost, Labor Cost, Overhead Cost, Profit

Closure (recap and wrap-up and/or clean up)

1. Review perimeter and conversion
2. Review cost per foot
3. Review material cost, labor cost, overhead cost, and profit

- This is a two hour lesson

Type and Title of Lesson Lesson Plan**Lesson # 68****Lecture, Supplemental Materials, Class Discussion - Construction Math Five *****OBJECTIVE (What students should be able to do as the result of this lesson)**

Given a lecture and a demonstration, each student will determine labor costs, materials costs, overhead costs, and profit for a wallpaper bid to: 1. A kitchen wall. 2. A living room wall. 3. A bedroom wall. 4. A dining room wall.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Math is the tool that we use to determine, in advance, the cost of construction projects. The bid process is what is used in the construction industry to assure that the customer pays a fair price and the contractor doesn't charge too much.

Introduction (prepare students for objective)

Ask question "How small of a job do you bid on?"

Procedure (sequence of instruction)

1. Perimeter
2. Feet to yards conversion
3. Cost per foot/yard
4. Material Cost, Labor Cost, Overhead Cost, Profit

Closure (recap and wrap-up and/or clean up)

1. Review perimeter and conversion
2. Review cost per foot
3. Review material cost, labor cost, overhead cost, and profit

- This is a two hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 69

Lecture, Directed Discovery, Class Discussion - Shop Projects *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given the appropriate tools and assigned a mock-up, each student will disassemble the mock-up, identify the appropriate parts, and assemble it within a one hour period and with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Students who are interactively involved, who are actively doing specific tasks, are “learning by doing.” Learning by doing stimulates interest and motivation, and creates the potential for students to examine attitudes and values about the careers for which they are preparing.

Introduction (prepare students for objective)

Ask question “How much would you charge to do this?”

Procedure (sequence of instruction)

1. Safety review the beginning of each hour
2. Mock-ups and tools ready
3. Assign mock-up supervisor to mock-up
4. Send students through all ten mock-ups
5. Make students mock-up supervisors and supervisory students
6. Send students through all ten mock-ups
7. Students get 75 points for each completion the second time through
8. Teacher observes and assists when asked

Closure (recap and wrap-up and/or clean up)

1. Review safety issues for project
2. Review installation
3. Review significant parts

- This is a twenty hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 70

Community Speaker, Lecture, Class Discussion - Job Search Techniques One *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a lecture from a guest speaker about the major interview considerations, each student will write out the considerations 100% correctly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Having the proper job search skills is necessary for employment in a competitive environment.

Introduction (prepare students for objective)

Ask question "What are employers looking for?"

Procedure (sequence of instruction)

1. Introduce professional speaker to class
2. Turn class over to speaker

Closure (recap and wrap-up and/or clean up)

1. Thank speaker
2. Review lesson

* This is a two hour class

Type and Title of Lesson Lesson Plan

Lesson # 71

Community Speaker, Lecture, Class Discussion - Job Search Techniques Two *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given a newspaper, telephone book, and 25 business cards, each student will make contact with five perspective construction employers and conduct an information interview.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Knowing the job market is necessary for career decisions.

Introduction (prepare students for objective)

Ask question "Who would you work for?"

Procedure (sequence of instruction)

1. Student business cards
2. Information interview form

Closure (recap and wrap-up and/or clean up)

1. Review with students
2. Students talk about experiences

* This is a three hour lesson

Type and Title of Lesson **Lesson Plan**

Lesson # 72

Lecture, Class Discussion - English/Spanish Translation One *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given 25 English construction words, each student will correctly identify the Spanish translations for each word with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Being able to communicate in both English and Spanish is an extremely valuable skill to have in the construction industry today.

Introduction (prepare students for objective)

Ask question "How can you let someone know what to do or get when they do not understand your language?"

Procedure (sequence of instruction)

1. Importance of communication
2. Introduce the English words and the Spanish counterparts
3. Go over meanings and uses of the words
4. Go over pronunciation and spellings
5. Give examination (80 points)

Closure (recap and wrap-up and/or clean up)

1. Review importance of communication
2. Assign homework

- This is a one hour lesson.

Type and Title of Lesson **Lesson Plan**

Lesson # 73

Lecture, Class Discussion - English/Spanish Translation Two *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given 25 English construction words, each student will correctly identify the Spanish translations for each word with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Being able to communicate in both English and Spanish is an extremely valuable skill to have in the construction industry today.

Introduction (prepare students for objective)

Ask question "How can you let someone know what to do or get when they do not understand your language?"

Procedure (sequence of instruction)

1. Importance of communication
2. Introduce the English words and the Spanish counterparts
3. Go over meanings and uses of the words
4. Go over pronunciation and spellings
5. Give examination (80 points)

Closure (recap and wrap-up and/or clean up)

1. Review importance of communication
2. Assign homework

* This is a one hour lesson.

Type and Title of Lesson Lesson Plan

Lesson # 74

Lecture, Class Discussion - English/Spanish Translation Three *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given 25 English construction words, each student will correctly identify the Spanish translations for each word with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Being able to communicate in both English and Spanish is an extremely valuable skill to have in the construction industry today.

Introduction (prepare students for objective)

Ask question "How can you let someone know what to do or get when they do not understand your language?"

Procedure (sequence of instruction)

1. Importance of communication
2. Introduce the English words and the Spanish counterparts
3. Go over meanings and uses of the words
4. Go over pronunciation and spellings
5. Give examination (80 points)

Closure (recap and wrap-up and/or clean up)

1. Review importance of communication
2. Assign homework

* This is a one hour lesson.

Type and Title of Lesson

Lesson Plan

Lesson # 75

Lecture, Class Discussion - English/Spanish Translation Four *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given 25 English construction words, each student will correctly identify the Spanish translations for each word with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Being able to communicate in both English and Spanish is an extremely valuable skill to have in the construction industry today.

Introduction (prepare students for objective)

Ask question "How can you let someone know what to do or get when they do not understand your language?"

Procedure (sequence of instruction)

1. Importance of communication
2. Introduce the English words and the Spanish counterparts
3. Go over meanings and uses of the words
4. Go over pronunciation and spellings
5. Give examination (80 points)

Closure (recap and wrap-up and/or clean up)

1. Review importance of communication
2. Assign homework

* This is a one hour lesson.

Type and Title of Lesson Lesson Plan

Lesson # 76

Lecture, Class Discussion - English/Spanish Translation Five *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given 25 English construction words, each student will correctly identify the Spanish translations for each word with 100% accuracy.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Being able to communicate in both English and Spanish is an extremely valuable skill to have in the construction industry today.

Introduction (prepare students for objective)

Ask question "How can you let someone know what to do or get when they do not understand your language?"

Procedure (sequence of instruction)

1. Importance of communication
2. Introduce the English words and the Spanish counterparts
3. Go over meanings and uses of the words
4. Go over pronunciation and spellings
5. Give examination (80 points)

Closure (recap and wrap-up and/or clean up)

1. Review importance of communication
2. Assign homework

* This is a one hour lesson.

Type and Title of Lesson **Lesson Plan**

Lesson # 77

Directed Discovery, Class Discussion - Job Search two *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given an opportunity for an 5 minute interview with the class instructor, each student will present himself/herself to the instructor, inquire about their grade and the possibility of making up missed work, and make one suggestion for improving the class.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Employee involvement in the operations of any organization is very important to its success, especially construction companies. To approach your boss with suggestions for improvement takes a lot of courage and must be done properly.

Introduction (prepare students for objective)

Ask question "If you were to make this class better for the students that will follow next year, what would you do?"

Procedure (sequence of instruction)

1. Give order students are to be interviewed
2. Assist student in becoming comfortable in instructor presence
3. Go over points earned and grade
4. Prompt student for conversation
5. Take suggestion seriously

Closure

1. Review suggestions with class
2. Consider consequences of implementation of any suggestions

* This is a two hour lesson giving each student a five minute interview. Adjust the interview time to the number of students.

Type and Title of Lesson **Lesson Plan**

Lesson # 78

Make-up - Second Quarter Final Preparation *

OBJECTIVE (What students should be able to do as the result of this lesson)

Given an opportunity from having excused absences or other excused reasons for missing previous lessons, each student will do the task required to complete the missed work and receive their points accordingly.

INSTRUCTION (What the instructor will do to facilitate the student learning)

Rational : Sickness, special events, and even the weather affect all of our lives in one way or another. We should all have the opportunity to make-up or catch-up.

Introduction (prepare students for objective)

Ask question "Do you want to bring your grade up or leave it where it is?"

Procedure (sequence of instruction)

1. Assign make-up to those who qualify and to the appropriate task
2. Use accomplished students in the task
3. Give points as required

Closure

1. Dismiss students for the Semester

* This is a four hour lesson giving closure to the quarter (90 hours).

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